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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICANT: Tatsuji NAKAJIMA et al.)
SERIAL NO: 10/623,786) Group Art Unit: 1775
FILED: July 21, 2003) Examiner: Blackwell Rut asil
TITLE: SILICA LAYERS AND ANTIREFLECTION FILM USING SAME

AMENDED CLAIMS

- 1-4 (cancelled)
5. (new) An antireflection film comprising a substrate film and an antireflection multiple layer provided on the substrate film, wherein the antireflection multiple layer comprises an organic silicon layer (A) having a composition represented by $\text{SiO}_x\text{Cy:H}$ ($x = 1.6$ to 1.9 and $y = 0.2$ to 1.0) and a refractive index of not less than 1.40 and not more than 1.46 ($\lambda = 550$ nm) as an outer layer and at least one layer selected from a silicon oxycarbide layer (B) having a composition represented by SiO_aCb ($a = 0.7$ to 1.7 and $b = 0.2$ to 1.4) and a refractive index of not less than 1.55 and less than 1.80 ($\lambda = 550$ nm) and a silicon oxycarbide layer (C) having a composition represented by SiO_dCe ($d = 0.5$ to 0.9 and $e = 1.0$ to 2.0) and a refractive index of not less than 1.80 and not more than 2.50 ($\lambda = 550$ nm) provided between the substrate and the outer layer.
- 6 (new) An antireflection film according to claim 5, wherein the antireflection multiple layer comprises said silicon oxycarbide layer (B), said silicon oxycarbide layer (C), and said organic silicon layer (A), in order from a side of the substrate film.
7. (new) An antireflection film according to claim 5, wherein the antireflection multiple layer comprises said silicon oxycarbide layer (C), said organic silicon layer (A), another silicon oxycarbide layer (C), and another organic silicon layer (A), in order from a side of the substrate film.